What is claimed is:

1. A process for preparing polymer particles comprising the step of: polymerizing one or more monomers in an aqueous emulsion comprising one or more surfactants, the one or more surfactants consisting of nonionic surfactants, wherein at least one of the nonionic surfactants is an amine-N-oxide surfactant, and wherein the polymer particles have a mean particle size of less than or equal to 100 nm.

2. The process of claim 1 wherein the amine-N-oxide surfactant is selected from N-alkyl amine oxides, N-acyl amine oxides or N-alkoxyalkyl amine oxides.

3. The process of claim 2 wherein the amine-N-oxide is selected from N-cocodimethylamine oxide, N-lauryl dimethylamine oxide, N-myristyl dimethylamine oxide, N-stearyl dimethylamine oxide; N-cocamidopropyl dimethylamine oxide, N-tallowamidopropyl dimethylamine oxide, or bis(2-hydroxyethyl) C_{12-15} alkoxypropylamine oxide.

4. The process of claim 3 wherein the bis(2-hydroxyethyl) C_{12-15} alkoxypropylamine oxide is selected from lauric acid diethanolamide, coconut acid diethanolamide, myristic acid diethanolamide, or oleic acid diethanolamide.

5. The process of claim 1 further comprising one or more nonionic surfactants selected from ethoxylated fatty alcohols, fatty acid alkanolamides, sorbitan derivatives or ethylene oxide/propylene oxide copolymers.

6. The process of claim 1 wherein the mean particle size of less than or equal to 50 nm.

7. The process of claim 1 wherein the anime-N-oxide surfactant is present in an amount from 0.1 to 15 % by weight, based on the total weight of the composition.

8. The process of claim 1 wherein at least one monomer is selected from silyl containing monomers or poly(alkylene oxide) monomers.

9. The process of claim 1 further comprising one or more cross-linking agents.

10. The process of claim 1 wherein the emulsion is free of siloxane monomers.

11. An emulsion of polymer particles comprising one or more surfactants, the one or more surfactants consisting of nonionic surfactants, wherein at least one of the nonionic

surfactants is an amine-N-oxide surfactant, and wherein the polymer particles have a mean particle size of less than or equal to 100 nm.

12. The emulsion of claim 11 wherein the amine-N-oxide surfactant is selected from N-alkyl amine oxides, N-acyl amine oxides or N-alkoxyalkyl amine oxides.

13. The emulsion of claim 12 wherein the amine-N-oxide is selected from N-cocodimethylamine oxide, N-lauryl dimethylamine oxide, N-myristyl dimethylamine oxide, N-stearyl dimethylamine oxide; N-cocamidopropyl dimethylamine oxide, N-tallowamidopropyl dimethylamine oxide, or bis(2-hydroxyethyl) C_{12-15} alkoxypropylamine oxide.

14. The emulsion of claim 13 wherein the bis(2-hydroxyethyl) C_{12-15} alkoxypropylamine oxide is selected from lauric acid diethanolamide, coconut acid diethanolamide, myristic acid diethanolamide, or oleic acid diethanolamide.

15. The emulsion of claim 11 wherein the mean particle size of less than or equal to 50 nm.

16. An emulsion of polymer particles comprising one or more nonionic surfactants, wherein the polymer particles have a mean particle size of less than or equal to 100 nm, and wherein the emulsion is substantially free of ionic surfactants.

17. The emulsion of claim 16 wherein at least one of the nonionic surfactants is an amine-N-oxide surfactant.

18. A composition comprising a B-staged dielectric material and an emulsion polymeric porogen particle wherein the polymer particles have a mean particle size of less than or equal to 100 nm, and wherein the polymer particles are substantially free of ionic surfactants.

19. The composition of claim 18 wherein the B-staged dielectric material is selected from silicon carbides, boron carbides, aluminum carbides, silicon oxides, boron oxides, aluminum oxides, silicon nitrides, boron nitrides, aluminum nitrides, silicon oxyfluorides, boron oxyfluorides, aluminum oxyfluorides, silicones, siloxanes, benzocyclobutenes, poly(aryl esters), poly(ether ketones), polycarbonates, polyimides, fluorinated polyimides, polynorbornenes, poly(arylene ethers), polyaromatic hydrocarbons, polyquinoxalines, poly(perfluorinated hydrocarbons), or polybenzoxazoles.

20. The composition of claim 18 wherein the emulsion polymeric porogen particle comprises one or more amine-N-oxide surfactants.

21. A method of manufacturing an electronic device comprising the steps of: a) depositing on a substrate a layer of a composition comprising B-staged dielectric material having a plurality of emulsion polymeric porogen particles dispersed therein, wherein the porogen particles have a mean particle size of less than or equal to 100 nm, and wherein the porogen particles are substantially free of ionic surfactants; b) curing the B-staged dielectric material to form a dielectric matrix material without substantially removing the porogen particles; c) subjecting the dielectric matrix material to conditions which at least partially remove the porogen particles to form a porous dielectric material layer without substantially degrading the dielectric material; d) patterning the dielectric layer; e) depositing a metallic film onto the patterned dielectric layer; and f) planarizing the film to form an electronic device.

22. The method of claim 21 wherein the B-staged dielectric material is an organo polysilica compound having the formula:

$$((RR^1SiO)_a(R^2SiO_{1.5})_b(R^3SiO_{1.5})_c(SiO_2)_d)_n$$

wherein R, R^1, R^2 and R^3 are independently selected from hydrogen, $(C_1$-$C_6)$alkyl, aryl, and substituted aryl; a, c and d are independently a number from 0 to 1; b is a number from 0.2 to 1; n is integer from about 3 to about 10,000; provided that a + b + c + d = 1; and provided that at least one of R, R^1 and R^2 is not hydrogen.